Monitoring waste anesthetic gas in the laboratory

Continuous exposure to high levels of waste anesthetic gas (WAG) poses risks to human health. Institutional animal care and use programs are therefore encouraged to require scavenging of WAG during inhalational anesthesia of animals to ensure that levels are kept as low as is practical in the anesthetic environment. Monitoring of personnel exposures to WAG is also encouraged. Yet neither levels of WAG during mouse inhalational anesthesia nor the effectiveness of scavenging methods to modulate such levels have been measured. Todd and colleagues evaluated whether passive scavenging or active scavenging could effectively reduce isoflurane WAG concentrations during mouse inhalational anesthesia to below trace concentrations. They also sought to determine whether isoflurane levels detected using personal dosimeters and using infrared spectroscopy were comparable.

Timed mating of Mongolian gerbils

In developmental studies, embryos or fetuses must be exposed to experimental interventions at the same gestational stage, because pathogens, chemicals or pharmacological agents can have varying effects depending on the developmental stage at which the exposure occurs. Using timed-pregnant animals allows researchers to pinpoint the time of conception to within a few hours. Roulo et al. describe a method for reliable timed-mating of virgin female Mongolian gerbils with a relatively small number of breeding pairs. They also report the reliability of using the lordosis reflex in female gerbils as a predictor of sexual receptivity and of subsequent pregnancy.

Positive reinforcement training for laboratory cats

Fear and stress in laboratory animals negatively impact their welfare, their ability to learn new tasks and their value as research subjects. Behavioral conditioning, particularly positive reinforcement training, can attenuate fear and stress responses in laboratory animals. There is little information available about conditioning cats for handling and transport in a laboratory setting, however. Gruen et al. developed a protocol to condition laboratory cats to be handled by personnel and routinely transported in a cat carrier to another location for behavioral testing and sampling. Cats were successfully trained in the relatively short time span of ~1–3 weeks.